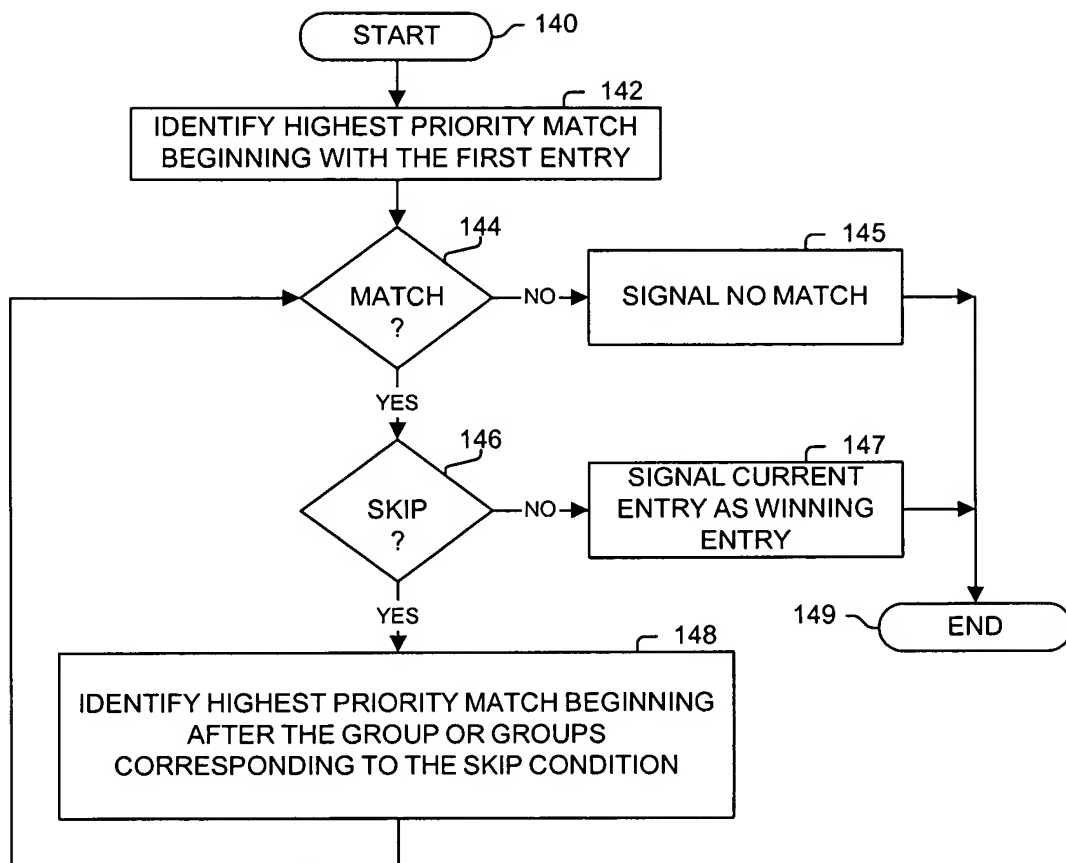
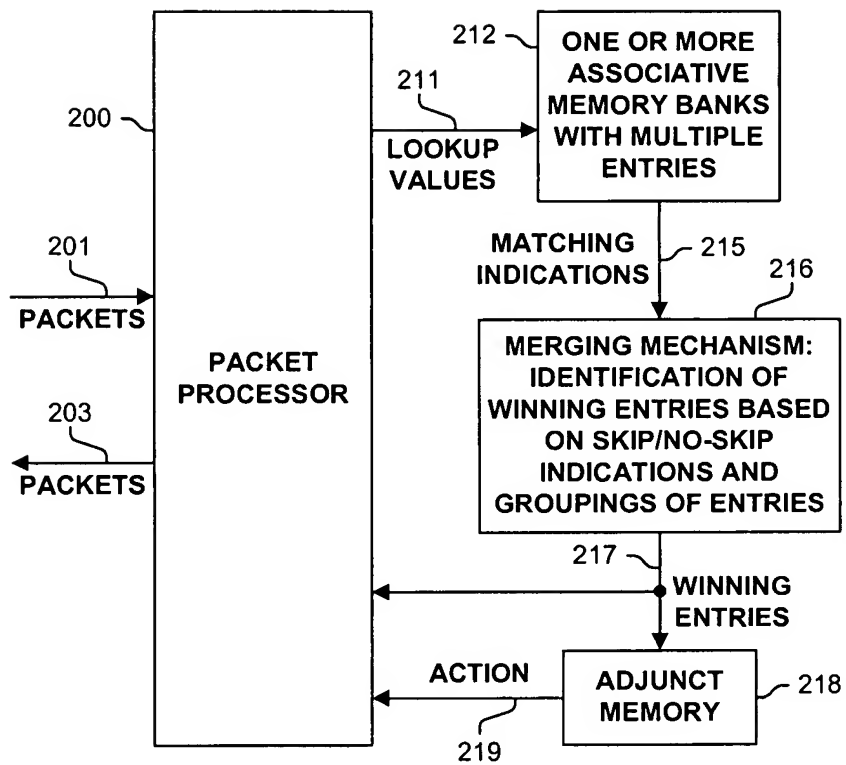


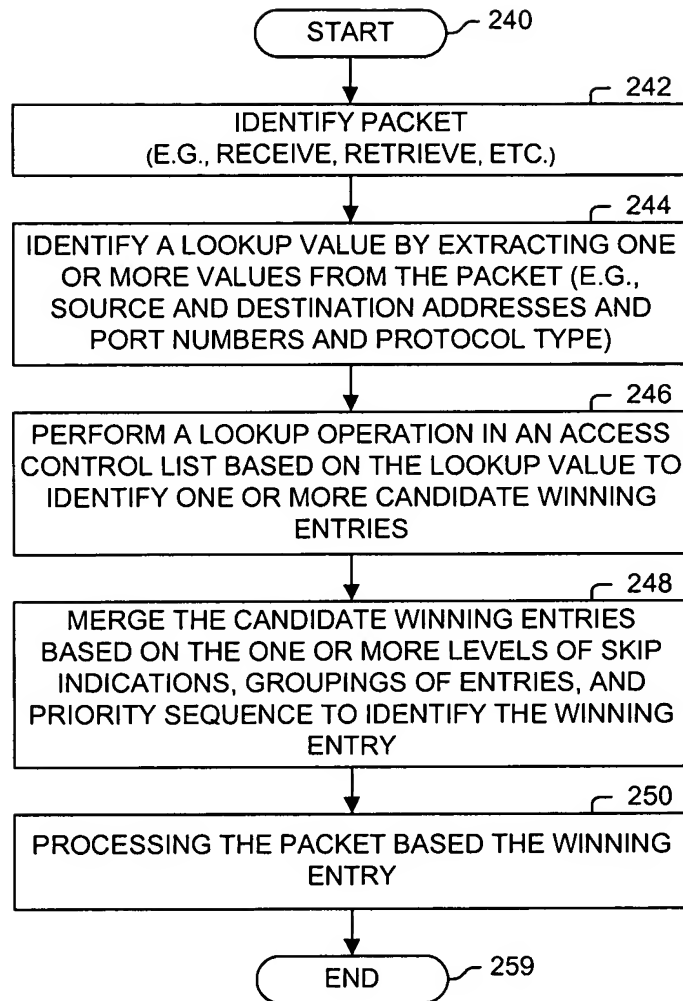
FIGURE 1A



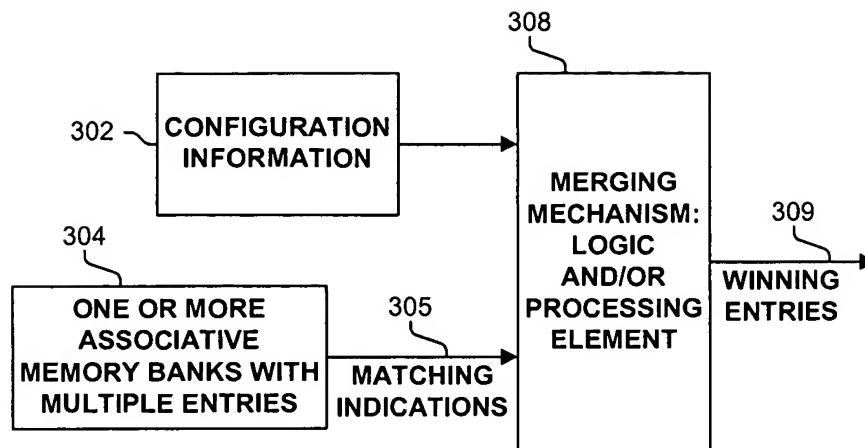
**FIGURE 1B**



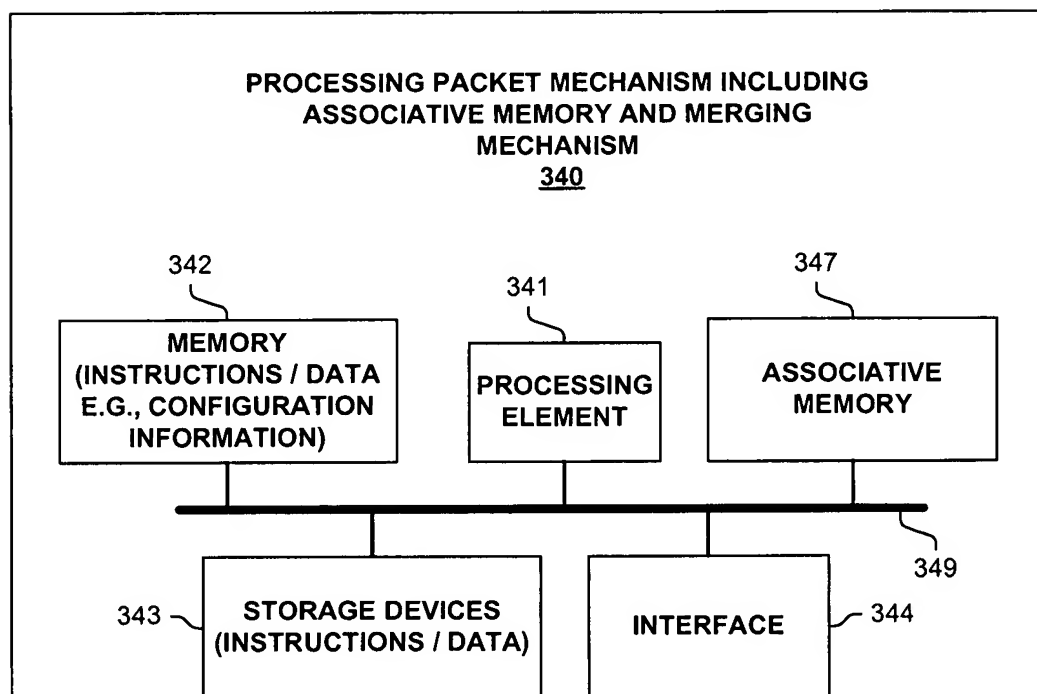
**FIGURE 2A**



**FIGURE 2B**



**FIGURE 3A**



**FIGURE 3B**

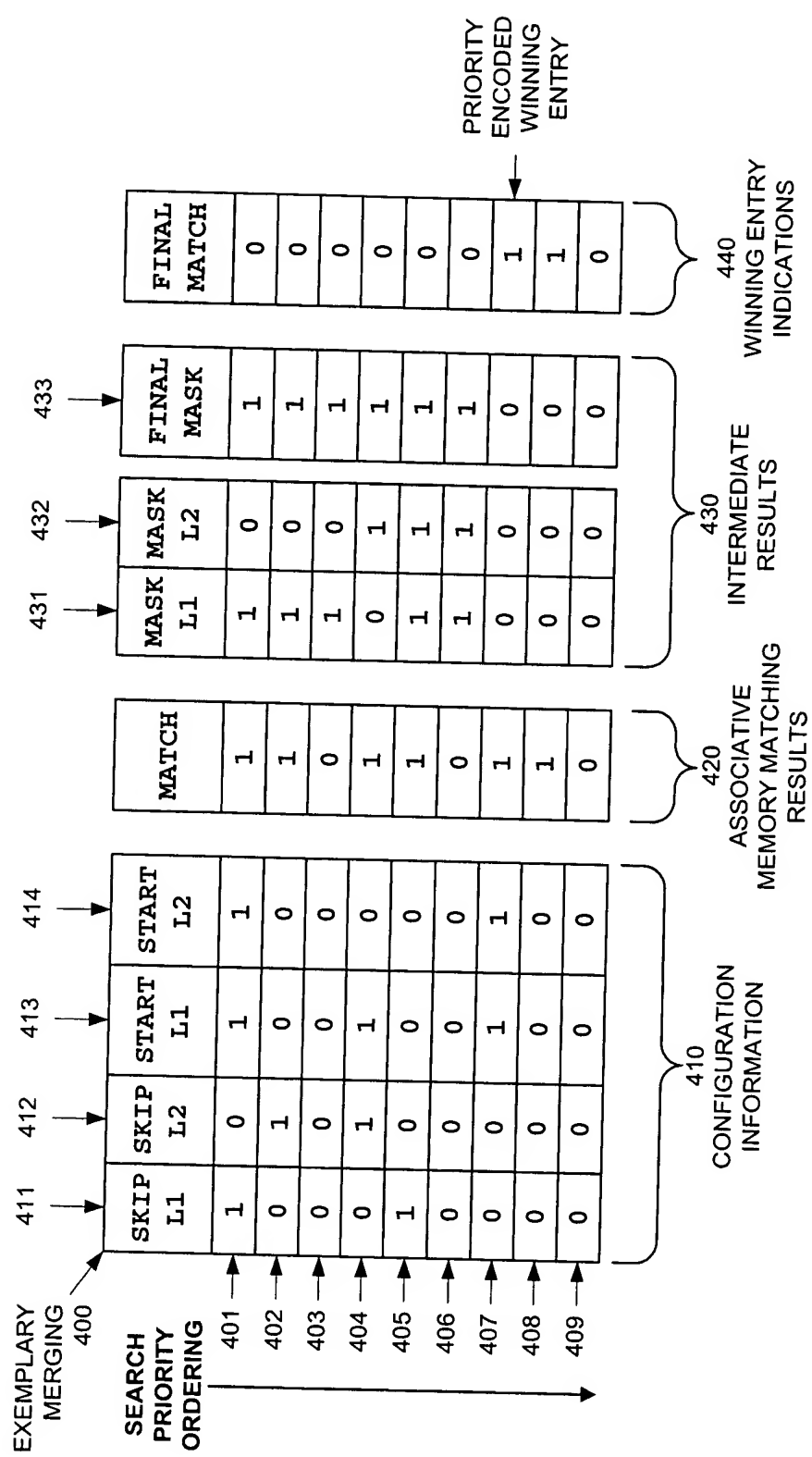


FIGURE 4A

EXEMPLARY  
MERGING LOGIC  
EQUATIONS  
460

```

MASK_L1[0] = MATCH[0] * SKIP_L1[0]
MASK_L1[1] = MATCH[1] * SKIP_L1[1] + ~START_L1[1] * MASK_L1[0]
MASK_L1[2] = MATCH[2] * SKIP_L1[2] + ~START_L1[2] * MASK_L1[1]
...
MASK_L2[0] = MATCH[0] * SKIP_L2[0]
MASK_L2[1] = MATCH[1] * SKIP_L2[1] * ~MASK_L1[1] + ~START_L2[1] * MASK_L2[0]
MASK_L2[2] = MATCH[2] * SKIP_L2[2] * ~MASK_L1[2] + ~START_L2[2] * MASK_L2[1]
...

```

FIGURE 4B

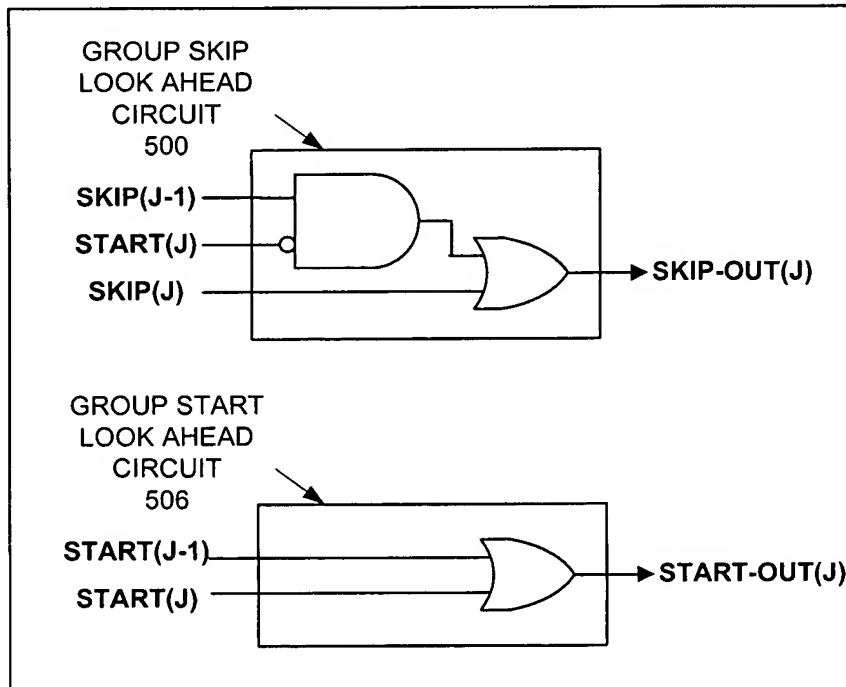
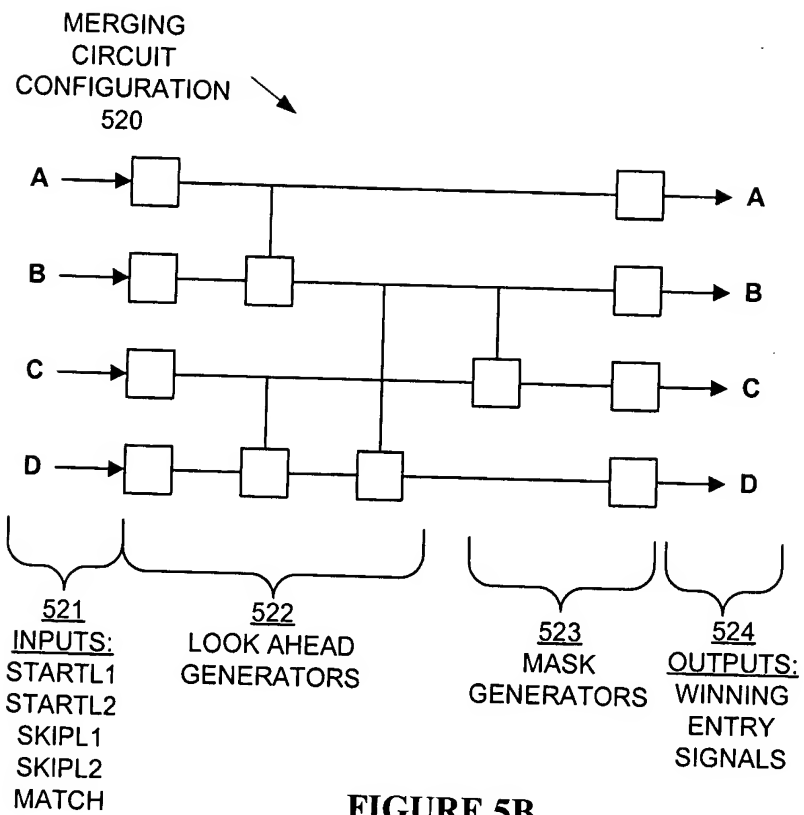


FIGURE 5A





INPUTS:

CONFIGURATION:

STARTL1-A, STARTL1-B, STARTL1-C, STARTL1-D  
STARTL2-A, STARTL2-B, STARTL2-C, STARTL2-D  
SKIPL1-A, SKIPL1-B, SKIPL1-C, SKIPL1-D

ASSOCIATIVE MEMORY: MATCH-A, MATCH-B, MATCH-C, MATCH-D

LEVEL ONE LOOK AHEAD

SKIPAtmp = (SKIPL1-A and MATCH-A and not STARTL1-B)  
SKIPL1-OUT = (SKIPL1-B and MATCH-B) or SKIPAtmp  
STARTL1-OUT = STARTL1-B or STARTL1-A

LEVEL TWO LOOK AHEAD

SKIPL2OUT = (SKIPL2-B and MATCH-B and not SKIPAtmp) or (SKIPL2-A and MATCH-A and not STARTL2-B)  
STARTL2OUT = STARTL2-B or STARTL2-A

TERMINAL MASK GENERATOR

MASKL1-A = SKIPL1-A and MATCH-A

MASKL1-B = SKIPL1-B and MATCH-B or (MASKL1-A and not STARTL1-B)

MASKL1-C = SKIPL1-C and MATCH-C or (SKIPL1-OUT and not STARTL1-C)

MASKL1-D = SKIPL1-D and MATCH-D or (MASKL1-C and not STARTL1-D)

MASKL2-A = (SKIPL2-A and MATCH-A)

MASKL2-B = (SKIPL2-B and MATCH-B and not MASKL1-B) or (MASKL2-A and not STARTL2-B)

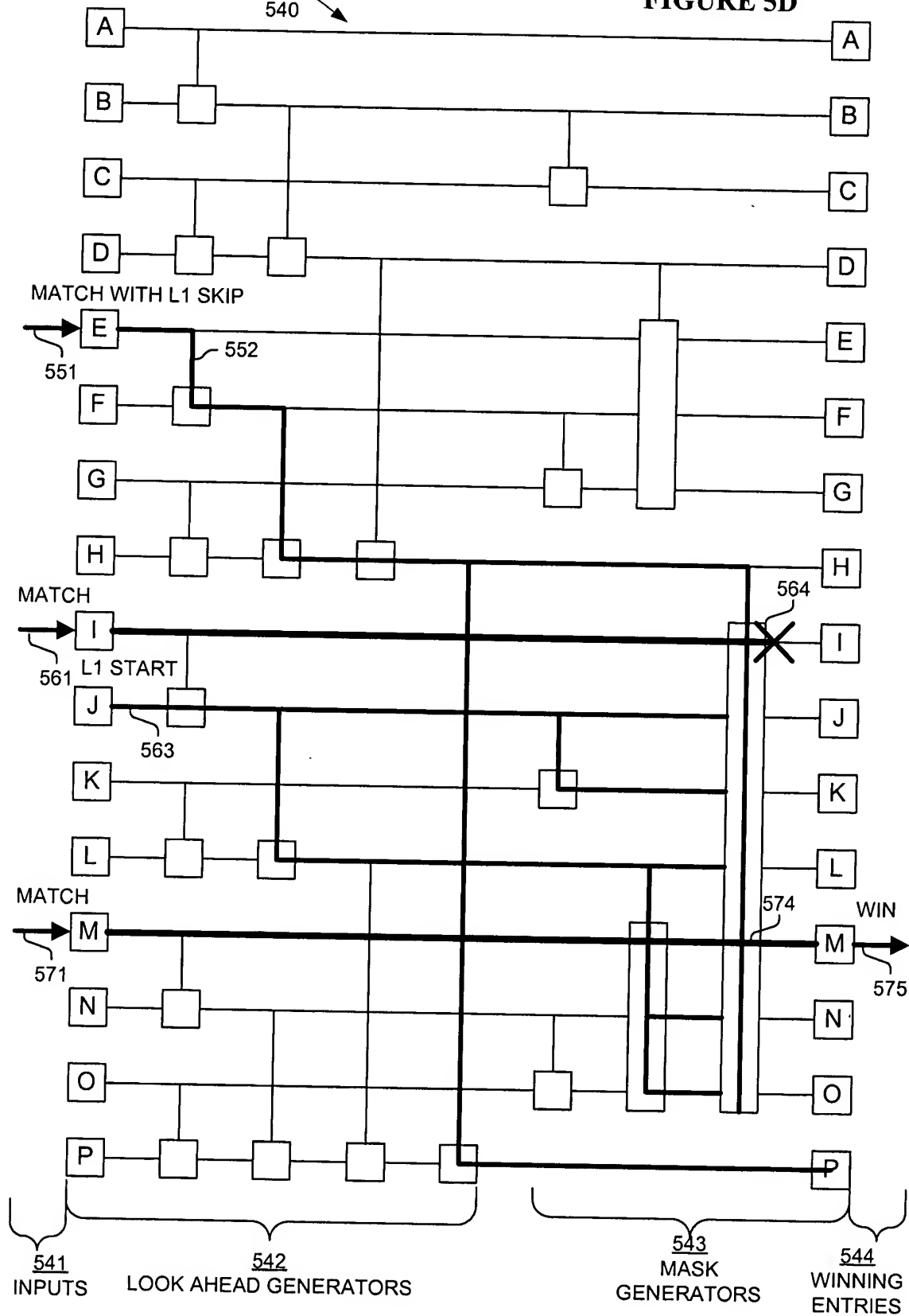
MASKL2-C = (SKIPL2-C and MATCH-C and not MASKL1-C) or (SKIPL2OUT and not STARTL2-C)

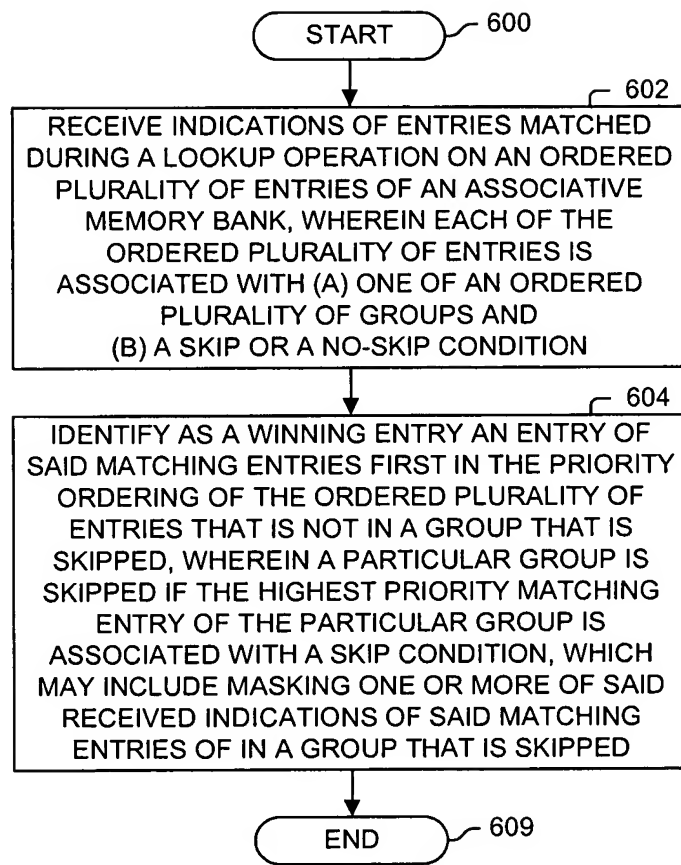
MASKL2-D = (SKIPL2-D and MATCH-D and not MASKL1-D) or (MASKL2-C and not STARTL2-D)

FIGURE 5C

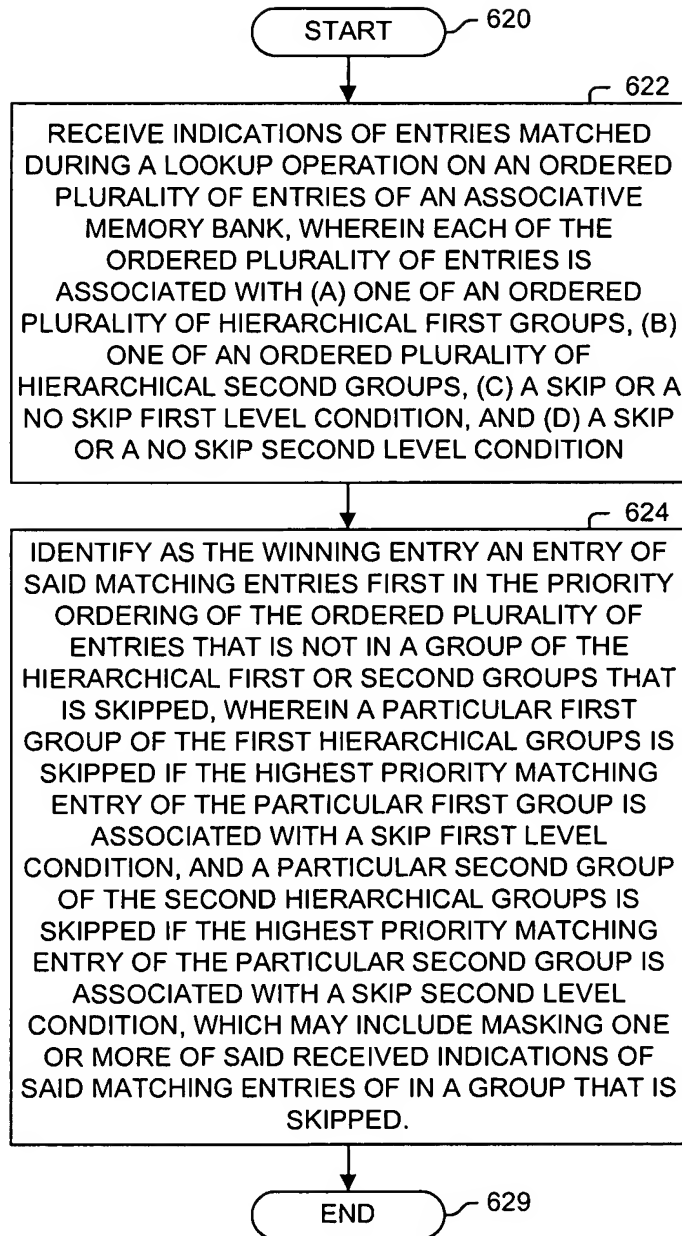
MERGING CIRCUIT CONFIGURATION

FIGURE 5D





**FIGURE 6A**



**FIGURE 6B**